Predicting pandemic progression

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A new predictive model described in the *International Journal of Critical Infrastructures* suggests that we need to be conscientious in our decision-making with regard to the spread of the coronavirus, SARS-CoV-2 and the ongoing COVID-19 pandemic this infectious agent has caused.

Sunil Gupta and Durgansh Sharma of the Department of Cybernetics in the School of Computer Science and Engineering at the University of Petroleum and Energy Studies in Dehradun, India, point out that others have used various mathematical models to help them track the spread of COVID-19 with a view to predicting the next wave in the pandemic cycle. The team has used the auto ARIMA (auto-regressive integrated moving average method) model to give them an accurate picture of the evolving pandemic as it might unfold in a future 100-day period. This could be useful for policymakers and health care leaders hoping to get ahead of any major outbreaks based on emerging data from the pandemic.

The model is built on data from December 2019 to August 2020 from Johns Hopkins University, the first few months of the pandemic, but can be adapted to new data now that proof of principle has been demonstrated. It can offer insight into the way the disease might continue to spread or not during the next three months from when the model is run on recent data.

More information: Sunil Gupta et al, Prediction of COVID-19 spread in world using pandemic dataset with application of auto ARIMA and SIR models, *International Journal of Critical Infrastructures* (2022). DOI: 10.1504/IJCIS.2022.123419

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